

MARCH 2023

Guidance for Sustainable Groundwater
Management Act Implementation:
**Considerations for
Identifying and
Addressing Drinking
Water Well Impacts**



Guidance for Sustainable Groundwater Management Act Implementation: **Considerations for Identifying and Addressing Drinking Water Well Impacts**

MARCH 2023

Use of this document

The objective of this document is to provide guidance and technical assistance¹ to groundwater sustainability agencies (GSAs) for identifying and addressing drinking water well impacts while implementing and updating their groundwater sustainability plans (GSPs or Plans) under the Sustainable Groundwater Management Act (SGMA). The technical assistance provided in this document may be used by GSAs to guide their consideration of drinking water well users during SGMA implementation and when updating, assessing, or amending their GSPs. This document does not prescribe specific methods that GSAs must use, but it provides technical information and guidance on strategies to consider that may be protective of drinking water well users as GSAs move forward with SGMA implementation. GSAs are encouraged to consider this guidance and its applicability to their basins; however, conformance with specific approaches in this document will not automatically guarantee approval of a GSP by the Department of Water Resources (DWR or Department). Conversely, while the Department believes the approaches presented here likely have broad and general value when implementing SGMA in basins, a GSA need not conform or limit its approach to those contained in this document in order to gain Plan approval. Depending on circumstances in basins, other approaches may also be appropriate. To further assist GSAs, this document also provides links to an online toolkit containing current technical resources and examples of financial assistance to guide GSAs in addressing drinking water well impacts.



CALIFORNIA DEPARTMENT OF WATER RESOURCES

715 P Street
Sacramento, CA 95814
water.ca.gov

¹ CWC § 10729 et seq.

CONTENTS

- 1 BACKGROUND** 1
 - 1.1 Online Toolkit Accompanying This Document 2
- 2 DRINKING WATER UNDER SGMA** 2
 - 2.1 Identify Drinking Water Well Users 3
 - 2.2 Perform Public Outreach 5
 - 2.3 Understand Basin Conditions 6
 - 2.4 Evaluate Monitoring Network and Representative Monitoring Sites 7
 - 2.5 Evaluate Sustainable Management Criteria 9
 - 2.5.1 Chronic Lowering of Groundwater Levels 10
 - 2.5.2 Seawater Intrusion 11
 - 2.5.3 Degradation of Water Quality 12
 - 2.5.4 Land Subsidence 13
 - 2.6 Develop and Implement Projects and Management Actions 14
 - 2.6.1 Funding 15
 - 2.7 Continue Engagement and Fill Data Gaps 16
- 3 TOOLS AND RESOURCES** 17
- 4 COMPLEMENTARY PROGRAMS AND INITIATIVES** 17
 - 4.1 Groundwater Management Principles and Strategies 18
 - 4.2 Senate Bill 552: Drought Planning for Small Water Providers
and Rural Communities 18
 - 4.3 General Plans 19
 - 4.4 Well Permitting 19
 - 4.5 Other Relevant Programs 20

1. BACKGROUND

Enacted into law in 2014, the [Sustainable Groundwater Management Act](#) (SGMA) is the primary means to implement the state policy that "...groundwater resources be managed sustainably for long-term reliability and multiple economic, social, and environmental benefits for current and future beneficial uses."² Under SGMA, groundwater sustainability agencies (GSAs) must consider all beneficial uses and users in a groundwater basin when developing and implementing their locally-developed groundwater sustainability plans (GSPs or Plans). Drinking water well users, which can include municipal entities, small communities, and individual domestic wells³, have been identified and are considered beneficial users in all medium and high priority basins and can experience adverse effects such as dry wells, deteriorated water quality, and well damage from land subsidence when excessive groundwater extraction occurs.⁴ Each groundwater basin is unique in climate, geology, and land use and therefore the magnitude and scope of potential effects from groundwater extractions and the approach to groundwater management are also unique.

Longstanding state law and policy, codified since at least 1943, states that the use of water for domestic purposes is the highest use of water.⁵ In 2013, the state enacted a related policy that "... every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes."⁶ SGMA was passed, in part, to protect communities (i.e., domestic users (de minimis), drinking water systems) from adverse effects of unmanaged groundwater extractions on their drinking water wells and supplies.⁷ When administering and implementing SGMA, the Department of Water Resources (DWR or Department) considers these policies⁸, which emphasize the importance of drinking water beneficial uses and users.

SGMA authorizes and encourages the Department to provide technical assistance to GSAs and entities that extract or use groundwater.⁹ DWR is providing this guidance and technical assistance based on its review of GSPs, primarily for the critically overdrafted basins in 2020 and the various approaches that GSAs have employed to address impacts to drinking water well users. The goal of this document is to support and assist GSAs as they implement and prepare for periodic updates of their GSPs to fully consider how to appropriately address impacts to drinking water well users as part of SGMA implementation. The objectives of this document are:

1. Clarify how interests of drinking water well users are identified and may be addressed consistent with SGMA and the GSP Regulations.
2. Identify tools and resources that can be used by GSAs to enhance implementation of their GSPs and updates to their GSPs related to drinking water well users.
3. Identify and facilitate opportunities for coordination on drinking water well issues among local agencies and county departments with water management responsibilities in a basin and identify state programs to support and facilitate GSAs and local agencies in their coordination efforts.

2 CWC § 113.

3 Drinking water users may broadly refer, as applicable, to the well (property) owners, renters, residents, or tribes that rely on groundwater for household purposes.

4 Stats. 2014, c. 347 (AB 1739) § 1 (a)(3).

5 CWC § 106.

6 CWC § 106.3.

7 AB1739 § 1 (a)(4).

8 23 CCR § 350.4 (g).

9 CWC § 10729 et seq.

1.1 Online Toolkit Accompanying This Document

Since SGMA was enacted, the Department has developed a wide range of technical and planning assistance resources to support GSAs in improving their understanding of their groundwater basin, engaging with interested parties, and identifying financial resources or funding opportunities for implementation of their GSPs. In addition, other state agencies, such as the State Water Resources Control Board (State Water Board), have developed tools that could be useful to GSAs in addressing impacts to drinking water well users. Relevant tools and resources from DWR and other state agencies have been centralized and posted via online “toolkits” which are organized with the same headings and topics as used in this guidance document. The Department will periodically update the toolkits as new resources, information, and funding become available. Links to the relevant toolkits can be found throughout the document wherever the following toolkit icon is found:



[Considerations for Identifying and Addressing Drinking Water Well Impacts Toolkits](#)

2. DRINKING WATER UNDER SGMA

One of the founding principles of SGMA is that groundwater resources are most effectively managed at the local or regional level.¹⁰ GSPs are planning documents describing long-term management approaches crafted with both technical and policy considerations. SGMA’s preference and design for “local control” gives GSAs the primary authority to debate and establish local policies as they develop and implement their GSPs.

GSP Regulations require GSAs to develop a sustainability goal for their basin that culminates in the absence of undesirable results within 20 years of Plan adoption and implementation.¹¹ Undesirable results are present when significant and unreasonable effects occur for any of the six sustainability indicators.¹² In defining the undesirable results for the basin, beneficial uses and users of groundwater must be considered, which includes drinking water well users. GSAs are to describe the potential effects based on the technical information presented in the basin setting.¹³ Undesirable results are quantified and monitored by using measurements in their established monitoring networks. GSPs must set a minimum threshold value at each representative monitoring site (RMS) which is a “numeric value...that, if exceeded, may [emphasis added] cause undesirable results.”¹⁴ An undesirable result is triggered when “...the combination of minimum threshold exceedances ... cause significant and unreasonable effects in the basin.”¹⁵ Furthermore, the GSP Regulations require the GSP to describe “[h]ow minimum thresholds may affect the interests of beneficial uses and users of groundwater or land uses and property interests.”¹⁶ Finally, the GSP must define a measurable objective, which is a quantitative goal that reflects the GSA’s desired groundwater conditions for the basin.¹⁷ The GSP must present a set of projects and management actions that will assist in achieving the basin’s sustainability

¹⁰ AB1739 § 1 (a)(8).

¹¹ 23 CCR § 354.24.

¹² Sustainability indicators under SGMA consist of chronic lowering of groundwater levels, reduction of groundwater storage, seawater intrusion, degraded water quality, land subsidence, and depletion of interconnected surface water.

¹³ 23 CCR § 354.26.

¹⁴ 23 CCR § 354.28 (a).

¹⁵ 23 CCR § 354.26 (b)(2).

¹⁶ 23 CCR § 354.28 (b)(4).

¹⁷ 23 CCR § 351(s).

goal¹⁸ within 20 years of the implementation of the initial Plan submission, as well as maintained through the 50-year planning and implementation horizon.¹⁹

Based on the above requirements, GSAs are to use the best available science, establish local management policy based on that science, consider impacts to all beneficial uses and users (including drinking water well users), and "...achieve sustainable groundwater management."²⁰ DWR, when evaluating GSPs for substantial compliance with the GSP Regulations, is required to determine whether Plans identify a reasonable pathway toward achieving sustainability in the required timeframe and whether the interests of beneficial uses and users, including drinking water well users, have been considered.²¹

GSAs have submitted their initial Plans, but they are required to provide annual reports and periodically update their GSPs at least every five years to document and assess progress toward achieving their sustainability goal.²² The requirements to submit these reports and regular updates acknowledge that groundwater planning and sustainable groundwater management are likely best achieved through an adaptive, iterative process and that GSPs will need to be adjusted as conditions change, new data become available, and the efficacy of projects and management actions are better understood. The figure on the next page shows a conceptual progression of adaptive management under SGMA, a cycle which GSAs may follow multiple times during the planning and implementation horizon. The following subsections describe each component of this adaptive management framework and how GSAs can consider the interests of drinking water well users at each step through implementation of their GSPs and describe the relevant GSP Regulations. Additionally, DWR's GSP determinations provide examples of how DWR evaluates the adequacy and substantial compliance with the GSP Regulations of GSPs based on locally established policies, procedures, variable basin conditions, and available data throughout the state.

2.1 Identify Drinking Water Well Users

Has drinking water been identified as a beneficial use in the basin and is there a thorough understanding of the location and construction details of drinking water supply wells?

The GSP Regulations require GSAs to identify the interests of all beneficial uses and users of water, which includes all drinking water well users, and specifically to map the density of wells per square mile as well as the location and extent of communities dependent on groundwater.²³ Understanding the locations of drinking water wells in a basin is foundational to considering these uses and users. Furthermore, in addition to well location, well depth and construction details, persons or populations served, and other information is likely necessary to effectively evaluate and monitor how changing groundwater elevations or water quality conditions in the principal aquifers may impact these uses and users within specific basins.

¹⁸ 23 CCR §§ 354.42 and 354.44.

¹⁹ 23 CCR § 354.24.

²⁰ 23 CCR § 350.4(e).

²¹ 23 CCR § 355.4 (b)(4).

²² 23 CCR § 356.4.

²³ 23 CCR § 354.8 (a)(5).

CWC § 10723.2

"The groundwater sustainability agency shall consider the interests of all beneficial uses and users of groundwater..."

23 CCR § 354.10

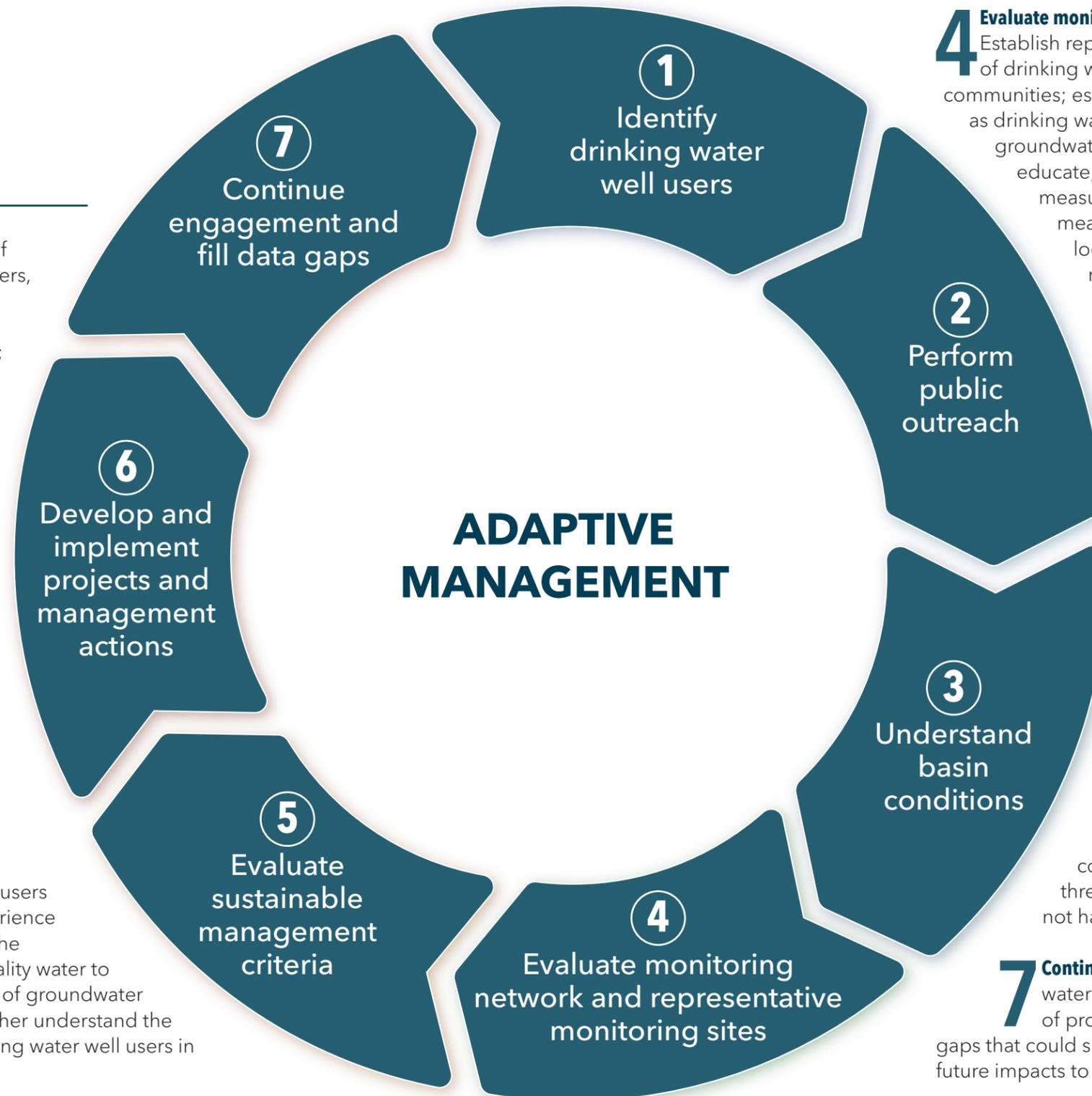
"Each Plan shall include a summary of information relating to notification and communication by the [groundwater sustainability] Agency with other agencies and interested parties, including..." (a) "A description of the beneficial uses and users of groundwater in the basin, including the land uses and property interests potentially affected by the use of groundwater in the basin, the types of parties representing those interests, and the nature of consultation with those parties."

Considering Drinking Water Users Throughout SGMA Implementation

1 Identify drinking water well users: Identify all types of drinking water well users, including de minimis users, domestic wells, state small water systems, small water systems, public and community water systems, and Tribes that rely on groundwater for drinking water; do not exclude known drinking water well users; establish a thorough understanding of the location and construction details of all drinking water wells.

2 Perform public outreach: Direct outreach to drinking water well users with a meaningful approach for how to engage and involve community members and organizations in decision-making; meet the community in suitable locations and at times when community members are available; communicate in the preferred language of drinking water well users; provide materials so community members can engage and understand technical information for a non-technical audience.

3 Understand basin conditions: Conduct well susceptibility or vulnerability analyses for all drinking water well users; do not exclude subsets of drinking water well users in assessing groundwater conditions; analyze the number of drinking water well users and/or percentage of users in the basin that may experience impacts if future water level conditions were to reach the minimum threshold; analyze the potential for poor quality water to affect drinking water well users in the future as a result of groundwater pumping in association with Plan implementation; further understand the basin conditions of the shallow aquifers used by drinking water well users in relation to the entirety of the basin.



4 Evaluate monitoring network and representative monitoring sites: Establish representative monitoring sites near high densities of drinking water well users, DACs, SDACs, or other rural communities; establish representative wells with similar depths as drinking water wells to be able to monitor and measure groundwater levels and conditions for drinking water well users; educate, train, and empower drinking water well owners to measure water levels, report to GSA, and understand the meaning of groundwater levels and conditions at their well locations, including what the minimum threshold is at or near their well's location.

5 Evaluate sustainable management criteria: Establish and revise sustainable management criteria based on analysis of understanding of basin conditions and considering potential impacts to drinking water well users; if minimum thresholds are set below 2015 groundwater levels, consider projects and management actions to address impacts or carefully justify how unaddressed impacts are consistent with the basin's sustainability goal.

6 Develop and implement projects and management actions: Support drinking water well users to have a long-term, reliable water supply with projects and management actions that address impacts; avoid projects and management actions that exclude certain drinking water well users and ensure that the benefits of projects and management actions are not arbitrary or inequitable; coordinate with local well permitting agencies to ensure new drinking water wells are constructed to provide reliable supply under minimum threshold conditions and that new, large supply wells will not have impacts on nearby drinking water wells.

7 Continue engagement and fill data gaps: Engage drinking water well users during Plan updates and implementation of projects and management actions; continue filling data gaps that could support and improve the understanding of current and future impacts to drinking water well users.

- **Enhance and maintain a thorough drinking water well inventory.** Many previously submitted GSPs relied on readily accessible, statewide tools to understand and identify drinking water wells in their basins. However, these datasets have limitations and GSAs are encouraged to refine their well inventory to fill data gaps for their basin. This can be achieved using local records, surveys, and/or outreach to water systems, communities, and residents to develop a comprehensive understanding of drinking water well locations and construction and service details within their basin.



Relevant data, information, and resources to support GSAs in identifying drinking water well users are available in the toolkit. [Identifying Drinking Water Well Users Toolkit](#)

2.2 Perform Public Outreach

Are drinking water well users and interests being informed and engaged throughout implementation and when updates are made to the GSPs?

Performing and documenting outreach is a requirement for GSPs, which must describe the parties that represent drinking water well users and detail the nature of consultation between the GSA and those parties.²⁴ For consideration, drinking water well users may not be represented or organized in consolidated ways that allow for GSAs to consult with and consider their interests in a single meeting or by meeting with one organization. Furthermore, small water systems typically do not have significant resources or staff, and domestic wells are often a one-well per household system. To alleviate these communication challenges, non-governmental organizations (NGOs) and community-based organizations (CBOs) can represent on behalf of these uses and users. Oftentimes, CBOs operate locally at venues such as churches or community facilities like public libraries, but these organizations may not be present in all areas of the state. Other local or municipal agencies (e.g., city, county, or health departments) may also have information or communication pathways to understand and consult with drinking water well users and well owners. Depending on the specific circumstances in their basins, GSAs may need to consider the following additional ways to meet their obligations to communicate and consult with and consider drinking water well users:

- Perform direct outreach to drinking water well users within their basins.
- Leverage existing communication and consultation pathways established by other existing entities such as NGOs, CBOs, or other local or municipal agencies.
- Coordinate Senate Bill (SB) 552 implementation. Counties fulfilling their responsibilities under SB 552 (described in [Section 4.2](#)) are also performing outreach to domestic users and small water systems through local drought task forces. Close coordination between GSAs and counties may therefore increase available information and understanding and foster coordinated activities related to emergency response and projects to build long-term resilience for drinking water well users.



Relevant data, information, and resources to support GSAs in performing public outreach are available in the toolkit. [Public Outreach Toolkit](#)

²⁴ 23 CCR § 354.10 (a).

2.3 Understand Basin Conditions

Is there thorough understanding and analysis of historic, current, and future groundwater conditions and identified locations of wells that may go dry, have potential for water quality impairments, or impacts due to seawater intrusion or land subsidence?

GSP Regulations require GSAs to assess potential future impacts to drinking water well users, including how sustainable management criteria and minimum thresholds may affect drinking water uses and users, land uses, and property interests.²⁵ Understanding the location and nature of potential future impacts is critical to taking proactive measures to avoid or minimize those impacts and achieve sustainable groundwater management. Potential activities to achieve and demonstrate this understanding as part of GSP implementation could include:

- **Perform a shallow well analysis.** Many previously submitted GSPs used a shallow well analysis to establish sustainable management criteria in their basins. These analyses typically included reviewing production well locations in relation to representative monitoring sites, known well construction information such as well screen and total depth, and describing the beneficial use of the identified shallow wells in the vicinity of each representative monitoring site. In this way, a shallow well analysis informs the GSA when establishing sustainable management criteria by providing an evaluation and disclosure of the potential impacts to shallow production wells, including drinking water well users, of potential groundwater management approaches.
- **Project future groundwater conditions and forecast potential impacts to drinking water well users.** Methodologies to complete such analyses may vary, with some basins leveraging their calibrated numerical models and other basins using simpler methods, such as Geographic Information System (GIS) or spreadsheet analyses. The analysis may identify wells at risk of going dry, experiencing a degradation of water quality, experiencing land subsidence, and/or experiencing seawater intrusion. In particular, the analysis should evaluate the potential impacts at minimum thresholds.²⁶ If a GSA identifies potential impacts to drinking water wells caused by groundwater extractions projected to occur under intended management of the

²⁵ 23 CCR §§ 354.18 (e), 354.26 (b)(3), and 354.28 (b)(4).

²⁶ 23 CCR §§ 354.28(b)(4).

23 CCR § 354.16

"Each Plan shall provide a description of current and historical groundwater conditions in the basin, including data from January 1, 2015, to current conditions, based on the best available information that includes..."(d)"... [g]roundwater quality issues that may affect the supply and beneficial uses of groundwater..."

23 CCR § 354.18

(e) "Each Plan shall rely on the best available information and best available science to quantify the water budget for the basin in order to provide an understanding of historical and projected hydrology, water demand, water supply, land use, population, climate change, sea level rise, groundwater and surface water interaction, and subsurface groundwater flow. If a numerical groundwater and surface water model is not used to quantify and evaluate the projected water budget conditions and the potential impact to beneficial uses and users of groundwater, the Plan shall identify and describe an equally effective method, tool, or analytical model to evaluate projected water budget conditions."

CWC § 10721 (e)

"'De minimis extractor' means a person who extracts, for domestic purposes, two acre-feet or less per year."

basin, including impacts to de minimis users²⁷ and disadvantaged communities, those impacts should be described in the GSP and periodic updates.²⁸ At a minimum, GSAs should disclose anticipated conditions and work with counties and other entities to respond, and/or implement projects and management actions to assist the identified users or avoid the adverse conditions.

- **Provide data and support to other local entities.** Well owners, counties, drillers, or other interested parties may need to better understand current and potential projected basin conditions, and GSAs should support them with information about sustainable management criteria, monitoring reports, and other data, customized to a particular well site.



Relevant data, information, and resources to support GSAs in understanding basin conditions are available in the toolkit. [Understanding Basin Conditions Toolkit](#)

2.4 Evaluate Monitoring Network and Representative Monitoring Sites

Do the monitoring networks for the Plan area contain sites that will monitor impacts to drinking water uses and users?

GSP Regulations require GSAs to develop a monitoring network to monitor groundwater management, including impacts to all beneficial uses and users of groundwater, which includes all categories of drinking water well users.²⁹ Groundwater level and water quality monitoring is particularly important for drinking water users to observe trends in groundwater conditions and anticipate where and when potential drinking water or well impacts may occur. To effectively monitor impacts to drinking water uses and users in their basins, GSAs may need to consider the following when establishing, refining, or evaluating their monitoring network:

²⁷ De minimis users are defined in CWC § 10721 (e) as domestic users that extract less than 2 acre-feet per year.

²⁸ CWC § 10723.2 and 23 CCR §§ 354.26(b)(3), 354.28(b)(4), 354.34(b)(2), 354.34(f)(3), 354.38(e)(3), 355.4(b)(4).

²⁹ 23 CCR § 354.34 (b)(2).

23 CCR § 354.34

- (a) "Each Agency shall develop a monitoring network capable of collecting sufficient data to demonstrate short-term, seasonal, and long-term trends..."
- (b) "...The monitoring network objectives shall be implemented to..."
- (2) "Monitor impacts to the beneficial uses or users of groundwater."
- (f) "The Agency shall determine the density of monitoring sites and frequency of measurements to demonstrate short-term, seasonal, and long-term trends based upon..."
- (3) "Impacts to beneficial uses and users of groundwater and land uses and property interests affected by groundwater production..."

23 CCR § 354.36

- (a) "Representative monitoring sites may be designated by the Agency as the point at which sustainability indicators are monitored, and for which quantitative values for minimum thresholds, measurable objectives, and interim milestones are defined."
- (c) "The designation of a representative monitoring site shall be supported by adequate evidence demonstrating that the site reflects general conditions in the area."

23 CCR § 354.38

- (e) "Each Agency shall adjust the monitoring frequency and density of monitoring sites to provide an adequate level of detail about site-specific surface water and groundwater conditions and to assess the effectiveness of management actions under circumstances that include..."
- (3) "Adverse impacts to beneficial uses and users of groundwater."

Considerations for Groundwater Level Monitoring Network

- **Establish monitoring network based on local conditions.** The monitoring network should consider the major geologic features that affect groundwater flow in the basin, which include the principal aquifers and aquitards, faults, and folds,³⁰ and should include monitoring sites that will represent conditions experienced by drinking water well users identified in [Section 2.1](#) above. This monitoring network should be of a sufficient density to collect measurements through depth-discrete perforated intervals to characterize the groundwater table or potentiometric surfaces for each principal aquifer. Monitoring sites and networks should also inform planning by supporting characterization of seasonal low and seasonal high groundwater conditions.
- **Evaluate areas needing more monitoring and enhance networks.** Identify areas in need of additional monitoring sites or increased monitoring frequency, such as areas currently experiencing declining water levels, dry wells, or issues due to land subsidence. Using well location and depth information described in [Section 2.1](#), evaluate if monitoring sites and selected representative monitoring sites are adequately located, in distance and depth, to monitor groundwater conditions affecting drinking water user wells.

Considerations for Groundwater Quality Monitoring Network

- **Utilize existing water quality monitoring.** Understand and utilize existing water quality monitoring programs when appropriate. Use of existing monitoring programs could, among other potential benefits, save resources, allow for more thorough monitoring when used in conjunction with new monitoring sites added by GSA(s), and provide additional data to characterize basin conditions, understand basin interactions, and reveal long-term or historic trends. If leveraging other water quality monitoring programs for compliance with SGMA, GSPs should explain the correlation and how the requirements of the other programs satisfy the requirements of SGMA and the GSP Regulations.³¹
- **Evaluate the adequacy of monitoring.** GSAs should evaluate the established monitoring frequencies for constituents or other water quality criteria to ensure that the monitoring will effectively identify trends and allow timely management actions.

Considerations for Representative Monitoring Sites

- **Evaluate adequacy of representative monitoring sites to observe potential effects to drinking water well users.** Using well location and depth information described in [Section 2.1](#) and from the established monitoring network, evaluate if selected representative monitoring sites adequately reflect general conditions in the area and can sufficiently monitor groundwater conditions that may affect drinking water uses and users and associated wells.

³⁰ 23 CCR § 354.14 (b)(4)(C).

³¹ 23 CCR § 354.34 (e), 23 CCR § 354.34 (g)(1), 23 CCR § 354.34 (g)(2).



Relevant data, information, and resources to support GSAs in establishing monitoring networks and representative monitoring sites are available in the toolkit. [Monitoring Network Toolkit](#)

2.5 Evaluate Sustainable Management Criteria

Do the sustainable management criteria in the GSP seek to avoid or minimize impacts to drinking water well users?

The sustainable management criteria section in a GSP defines conditions within the basin which constitute sustainable groundwater management, which SGMA defines as the management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results related to the six sustainability indicators.³² As described in the introduction to [Section 2](#), defining sustainable management criteria consists of four components:

- Sustainability Goal³³
- Undesirable Results³⁴
- Minimum Thresholds³⁵
- Measurable Objectives³⁶

Four of the six sustainability indicators³⁷ are potentially applicable to drinking water well users:

- Chronic lowering of groundwater levels
- Seawater intrusion
- Degraded water quality
- Land subsidence

The potential effects of these indicators on drinking water uses and users and how a GSP may structure its criteria for these indicators in consideration of drinking water uses and users are discussed in the subsections below.



Relevant data, information, and resources to support GSAs in evaluating sustainable management criteria are available in the toolkit. [Sustainable Management Criteria Toolkit](#)

³² Sustainability indicators under SGMA consist of chronic lowering of groundwater levels, reduction of groundwater storage, seawater intrusion, degraded water quality, land subsidence, and depletion of interconnected surface water.

³³ 23 CCR § 354.24.

³⁴ 23 CCR § 354.26.

³⁵ 23 CCR § 354.28.

³⁶ 23 CCR § 354.30.

³⁷ Groundwater storage could potentially affect drinking water users in various ways, including storage lost to aquifer compaction due to subsidence. However, for simplicity this document discusses lowering of groundwater levels and subsidence since they are the root causes of changes in storage.

2.5.1 Chronic Lowering of Groundwater Levels

Domestic and small water system wells are typically drilled shallower than larger agricultural and municipal wells and are often the first to experience the effects of declining water levels, potentially leaving drinking water users and well owners with increased operating or maintenance costs, changes in water quality, or lacking an adequate drinking water supply. While SGMA does not require that all impacts to individual drinking water well users be avoided or mitigated, SGMA and other state laws and policies do require deliberate and careful consideration and a well-supported management approach regarding potential impacts to these users. Attempts to ignore or dismiss such impacts are inconsistent with the intent of SGMA and GSP Regulations. In recognition of the seriousness with which such issues need to be considered and addressed in GSPs, DWR has noted in its determinations how drinking water issues have been addressed in submitted GSPs. DWR's evaluations are on a case-by-case basis using basin-specific circumstances and the management approach of specific Plans. DWR's GSP evaluations³⁸ elaborate on basin-specific recommendations, and, in conjunction with the guidance in this document, serve as additional insight for how GSAs may address drinking water wells in their basin plans and updates.

The GSP Regulations require GSPs to analyze and disclose the effects of their selected undesirable results and minimum thresholds on beneficial uses and users of groundwater in a basin, which includes drinking water well users.³⁹ To do so, an adequate understanding of the location and construction details of the drinking water supply wells in the basin is needed, as described in [Section 2.1](#) above. A well impact analysis that uses information on known drinking water supply wells and uses the minimum thresholds at monitoring network sites (which should be located near, and be representative of conditions experienced by, drinking water well users) is encouraged to demonstrate and disclose an adequate understanding of potential impacts to drinking water well users.⁴⁰ Results of this analysis should be compared to what is considered significant and unreasonable effects for the basin and convey when undesirable results are encountered.

SGMA does not require that GSPs address undesirable results that occurred prior to and were not corrected by January 1, 2015.⁴¹ Therefore, some GSPs may not contain projects or management actions for previous (prior to 2015) impacts to drinking water wells. However, if minimum thresholds would allow water levels to drop and to potentially cause new undesirable results, and projects and management actions are not proposed that will address the impacts, the GSP should contain a thorough discussion, with supporting facts and rationale, explaining how and why the GSA did not include specific actions to address drinking water impacts from continued groundwater lowering below previous pre-SGMA levels. Such rationale could include, but is not limited to, economic analyses and descriptions of how such lowering is consistent with the GSP's sustainability goal. Conversely, if a GSA maintains that its GSP is not required to address certain impacts to drinking water wells that are considered undesirable results, the GSA should precisely describe those potential impacts and conditions in its basin and explain how it determined they fall within the exclusion provided in CWC § 10727.2(b)(4). Under CWC § 10727.2(b)(4), GSAs are not required to address certain previous undesirable results, but they do have discretionary authority to do so if desired.

Based on a well impact analysis, if a portion of drinking water wells are at risk of losing access to adequate drinking water, the GSAs are encouraged to develop and implement projects and management actions to address the potential impacts. [Section 2.6](#) below contains guidance for

38 Available on the SGMA Portal: <https://sgma.water.ca.gov/portal/gsp/status>.

39 23 CCR §§ 354.26 (b)(3) and 354.28 (b)(4).

40 23 CCR § 354.28 (b)(4).

41 Water Code § 10727.2 (b)(4).

projects and management actions GSAs may want to consider. Furthermore, coordination with counties implementing SB 552, which has requirements related to addressing impacts to drinking water well users, is encouraged as described in [Section 4.2](#) below.

If a GSP proposes a management strategy that relies on a well mitigation program to justify the lowering of groundwater levels that may cause adverse effects to drinking water well users, the GSA must provide enough detail and evidence for DWR to determine whether the mitigation is feasible and likely to prevent undesirable results (e.g, describe the scope of the program, including a timeline for implementation, and how users impacted by continued groundwater level decline will be addressed).⁴² With every basin and management approach being unique, the need and scale of such a mitigation program will vary from basin to basin. However, such a program should be reasonably structured so that it does not arbitrarily or inequitably exclude certain drinking water well users and GSAs should be cautious in program requirements that may exclude users based on age of well, location, socioeconomic status, demographics, and other relevant factors.



Relevant data, information, and resources to support GSAs in evaluating their chronic lowering of groundwater levels sustainable management criteria are available in the toolkit. [Chronic Lowering of Groundwater Levels Toolkit](#)

2.5.2 Seawater Intrusion

Seawater intrusion has the potential to affect drinking water well users in coastal areas. GSP Regulations require that minimum thresholds be based on a chloride concentration isocontour for each principal aquifer and be based on current and projected sea levels.⁴³ In consideration of drinking water wells that are near an area that may be at risk of experiencing seawater intrusion, GSAs may consider the following guidance:

- **Evaluate if minimum threshold isocontour values are consistent with drinking water uses.** Regulated drinking water systems have a recommended maximum contaminant level for chloride of 250 milligrams per liter⁴⁴ and GSAs may consider this an appropriate guideline for drinking water purposes.
- **Establish monitoring wells screened at a similar depth as drinking water wells.** These wells that are used to generate the chloride isocontours should be screened similarly to drinking water wells, since seawater intrusion will vary with depth based on geology and seawater density.
- **Establish sentinel wells.** Monitoring wells on the seaward side of the proposed isocontours should be considered for monitoring. If they are placed strategically, they could allow early detection of intrusion fronts if it is progressing landward.
- **Use electrical conductivity (EC) measurements to better understand seawater intrusion conditions.** EC can serve as a surrogate for seawater intrusion and is a relatively easy and cost-effective measurement to gather in the field. Electrical conductivity transducers can be

⁴² 23 CCR 355.4(b)(5).

⁴³ 23 CCR § 354.28 (c)(3).

⁴⁴ 22 CCR § 64449 Table B.

installed in the screen of monitoring wells and record measurements at regular intervals. Frequent measurements can provide valuable insight on how seawater intrusion may change seasonally or based on aquifer stresses.

- **Use geophysics to better understand seawater intrusion conditions.** Geophysical techniques are available that can assist GSAs with understanding and mapping seawater intrusion. Electromagnetic geophysical methods are sensitive to the high electrical conductivity associated with seawater-saturated sediments and are a commonly used method for mapping seawater intrusion. The airborne electromagnetic (AEM) method can be used to map the lateral extent of seawater intrusion in agricultural areas that are not densely populated and provide seawater intrusion interpretations to depths up to 1,000 feet below surface. Towed electromagnetic (t-TEM) methods can be deployed in smaller open spaces and provide seawater intrusion interpretations to depths up to 300 feet. Finally, the electromagnetic tomography (ERT) method can be deployed along coastlines by installing sensors in an array and provides seawater intrusion interpretations to depths that are dependent on the length of the sensor array (typically depths up to 600 feet).



Relevant data, information, and resources to support GSAs in evaluating their seawater intrusion sustainable management criteria are available in the toolkit. [Seawater Intrusion Toolkit](#)

2.5.3 Degradation of Water Quality

GSP Regulations require that the GSA consider local, state, and federal drinking water quality standards applicable to the basin.⁴⁵ Existing water quality standards may include, but are not limited to, those established by the State Water Board's Division of Drinking Water, the Regional Water Quality Control Board's (RWQCB's) basin plan(s), Irrigated Lands Regulatory Program (ILRP), and/or Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS).⁴⁶ The GSA may rely on water quality programs for monitoring, but should consider additional monitoring in areas where the drinking water wells are screened at different depths from the program's wells or where there is no existing monitoring.

- **Reevaluate constituents of concern (COCs).** The GSP Regulations require that the GSA set minimum thresholds for water quality degradation that impairs water supplies, which includes drinking water supplies.⁴⁷ Therefore, the GSA should describe what groundwater conditions are considered suitable for drinking water use and identify a set of COCs that may affect that suitability and need to be monitored.⁴⁸ A reasonable starting point is to review constituents regulated by the State Water Board's Division of Drinking Water with a drinking water standard, evaluate previously collected groundwater quality data in the basin, and identify constituents that may have values elevated above screening thresholds⁴⁹, increasing trends, and/or values greater than or at drinking water standards. The selected COCs should be supported by the

⁴⁵ 23 CCR § 354.28 (c)(4).

⁴⁶ 23 CCR § 354.28 (c)(4).

⁴⁷ 23 CCR § 354.28 (c)(4).

⁴⁸ 23 CCR § 354.28 (c)(4).

⁴⁹ See [Water Quality Toolkit](#)

groundwater conditions section of the GSP. Additional constituents that could be reasonably anticipated based on land uses and hydrogeologic conditions in the basin can be considered as potential COCs.

As mentioned above, domestic and small water system wells are often drilled shallower than larger wells and may be more susceptible to poor water quality from land use activities. Water quality degradation can result from non-point sources such as broad application of fertilizer or pesticides on agricultural lands or from point sources such as concentrated animal feeding operations or contaminated sites from spills or leaks. GSP Regulations require that the GSA consider the potential impact of migrating contaminant plumes when identifying COCs and minimum thresholds.⁵⁰ Many locations with contaminated groundwater and contamination plumes are actively regulated by local, state, or federal agencies under various authorities. GSAs should coordinate with these agencies to understand how groundwater management in the basin may be impacting ongoing regulatory activities and overall water quality that may affect drinking water well users in the basin. Such water quality issues, either from contamination or from natural sources, emphasize the need for good monitoring that is representative of conditions experienced by drinking water wells and described in [Section 2.4](#) above.



Relevant data, information, and resources to support GSAs in evaluating their degradation of water quality sustainable management criteria are available in the toolkit. [Degradation of Water Quality Toolkit](#)

2.5.4 Land Subsidence

GSP Regulations require that GSAs present the best available information to document conditions related to land subsidence in the basin.⁵¹ The GSP must set minimum thresholds at a rate and extent that avoids substantial interference with land uses.⁵² To support this, many GSAs have identified infrastructure that are sensitive to changes in ground surface elevation such as canals, aqueducts, pipelines, wastewater systems, railways, roads, and bridges. However, wells are also susceptible to damage from subsidence. Subsidence can cause well casing to collapse, above-ground equipment to fail, and damage sanitary seals that can cause a well to fail or contaminants to enter the well. GSAs should consider the following to protect drinking water well users from these effects:

- **Identify wells that may be susceptible to subsidence.** Both the location and depth of wells in a basin should be determined and considered to understand if they are constructed through clay layer(s) where subsidence-causing compaction may occur and potentially damage wells.
- **Consider drinking water wells when revising sustainable management criteria.** As mentioned above, various types of infrastructure may be at risk of damage due to subsidence and drinking water wells should be considered in revising sustainable management criteria.
- **Monitor for subsidence in areas with drinking water wells.** The subsidence monitoring network should not exclude areas with drinking water wells.

⁵⁰ 23 CCR § 354.28 (c)(4).

⁵¹ 23 CCR § 354.16 (e).

⁵² 23 CCR § 354.28 (c)(5).



Relevant data, information, and resources to support GSAs in evaluating their land subsidence sustainable management criteria are available in the toolkit. [Land Subsidence Toolkit](#)

2.6 Develop and Implement Projects and Management Actions

Are there projects and management actions proposed and being implemented that will avoid or minimize impacts to drinking water well users?

The GSP Regulations require GSPs to identify projects and management actions that will achieve the sustainability goal for the basin.⁵³ GSAs, local agencies, and NGOs or CBOs may benefit from coordination and potential partnerships to plan and prioritize projects and management actions in their respective basins. Examples of the benefits of these partnerships could include identification of details on what will be achieved with a project, who will implement the project, and how a project will be managed.

Some projects and management actions may be proposed and implemented to respond to near-term effects, including emergency needs and drought impacts, where drinking water well users may lose access to adequate drinking water supply. Such actions could include bottled water, tanked water, and treatment measures. These responses should be closely coordinated with local and state emergency authorities along with counties implementing their drought planning responsibilities under SB 552. However, GSAs should also focus on measures that will avoid these conditions and promote long-term sustainability.

Examples of the types of projects and management actions that, depending on circumstances in a basin, could achieve reliable, long-term supplies for drinking water well users include:

- **Management actions**
 - > Demand reduction surrounding communities reliant on groundwater for drinking water
 - > Adjusting the location of demand, such as creating buffer zones for drinking water users
 - > Managed aquifer recharge near communities to replenish shallow aquifers, with considerations of potential water quality effects
- **Alternate supply projects**
 - > Shifting drinking water well users to surface water supplies
 - > Consolidation of drinking water users into existing community and municipal systems
 - > Establishing new community water systems
 - > Drilling new wells for drinking water users
- **Well modification projects**
 - > Lowering pumps in existing drinking water wells
 - > Rehabilitating existing drinking water wells
 - > Deepening existing drinking water wells
- **Treatment projects**
 - > Point of use or point of entry treatment for drinking water users

The list above is not exhaustive and the types of projects and management actions that may be feasible will vary from basin to basin as determined by the GSAs. When developing or implementing

⁵³ 23 CCR §§ 354.24 and 354.44 (a).

such actions, GSAs should strive to include all drinking water well users and should carefully consider any requirements so that assistance to drinking water users is not administered arbitrarily or inequitably as elaborated in [Section 2.5.1](#) above.

GSAs may need to prioritize their projects and management actions. Prioritization factors could include:

- Effectiveness
- Number of users benefitted
- Permitting and environmental considerations
- Water rights
- Cost

Based on the established priority, GSPs should describe the circumstances under which the projects and management actions will be implemented as required by GSP Regulations.⁵⁴ However, projects and management actions are often best implemented proactively, meaning GSAs should not necessarily wait for triggering events. Similar to other disasters, once the emergency conditions that impair drinking water supplies are present, it may be too late to implement some of the projects and management actions that would have avoided the impacts had they been implemented sooner.

GSAs may want to engage drillers and well permitting agencies to make sure they are able to determine the minimum threshold at a particular well site if the site is within a medium or high priority basin. Knowing the depth of the minimum threshold will allow them to:

- Inform existing well owners of the level of risk that their well could go dry or experience issues associated with water levels declining to the minimum threshold and allow well owners to take proactive measures
- Inform or require owners and drillers of new wells to drill to a depth which would continue to provide an adequate supply at minimum threshold conditions
- Assess whether a new supply well may have impacts on nearby drinking water wells



Relevant data, information, and resources to support GSAs in developing and implementing projects and management actions are available in the toolkit. [Projects and Management Actions Toolkit](#)

2.6.1 Funding

Funding to support both short-term emergency efforts and long-term solutions that build resilience may be available from many public sources at the local, county, state, and federal levels. Numerous funding programs require that recipients (GSAs) match the requested grant funding, either in dollars or “in-kind” services.

2.6.1.1 Costs of Addressing Drinking Water Impacts

Specific costs for projects, management actions, and assistance to impacted drinking water well users will depend on the nature, type, and scale of a given project. The Framework for a Drinking Water Well Impact Mitigation Program (2022)⁵⁵ provides estimates for well activities such as diagnostics,

⁵⁴ 23 CCR § 345.44 (b)(1)(A).

⁵⁵ Available at: <https://www.selfhelpenterprises.org/wp-content/uploads/2022/07/Well-Mitigation-English.pdf>

pump lowering, and new well drilling. While these estimates give an approximation of potential costs to well owners, they can vary widely depending on the size and depth of well, material costs, and other market forces.

2.6.1.2 Funding Sources

Most public financial assistance programs change frequently as the sources of funding for these programs have specific requirements on how and when the dollars must be spent. The website toolkit connected with this document serves as a resource for GSAs and parties whose drinking water sources have been impacted. It will be updated regularly to provide the most current and accurate information regarding applicable financial assistance programs.

2.6.1.2.1 State and Federal Grants and Loans

While there are many relevant financial assistance programs, this section highlights some state and federal funding programs that are likely to continue to be available into the future. The federal and state governments maintain websites that serve as clearinghouses for available funding programs, and DWR and the Sustainable Groundwater Management (SGM) Program also maintain funding websites. Each of these websites are listed below and additional funding programs can be found via internet search of the terms “drinking water”, “domestic well”, “small community water systems”, or simply “water” or “groundwater”.

- **Federal:** <https://www.grants.gov/>
- **California Statewide:** <https://www.grants.ca.gov/>
- **DWR:** <https://water.ca.gov/Work-With-Us/Grants-And-Loans>
- **SGM Program:** <https://water.ca.gov/work-with-us/grants-and-loans/sustainable-groundwater>

2.6.1.2.2 GSA Fees and Assessments

SGMA gives GSAs the authority to levy fees and assessments based on usage, acreage, or other criteria.⁵⁶ Some GSAs have already implemented such fees and assessments and others may do so as they implement their GSPs. Such revenue sources may be necessary to implement GSPs and projects and management actions because state, federal, and other funding sources typically have requirements of the types of activities that can be funded and often require cost match or repayment of loans. GSAs may need to explore different fee and assessment processes depending on their governance structure and other relevant laws or policies.



Relevant and current information about potential funding approaches and opportunities are available in the toolkit. [Funding Toolkit](#)

2.7 Continue Engagement and Fill Data Gaps

Are drinking water well users and interests continually being informed and engaged during GSP implementation activities such as projects and management actions, annual reports, and updates to GSPs?

As GSAs move forward with implementation of their GSPs, keeping the public informed of Plan progress, basin conditions, and the status of projects and management actions is critical⁵⁷ and may

⁵⁶ Water Code §§ 10725 et seq. and 10730 et seq.

⁵⁷ 23 CCR § 354.44 (b)(1)(B).

foster greater community understanding and support of GSA efforts. In basins that identify the potential for impacts to drinking water well users, either during the development of the GSP or through evaluation of new monitoring data, refinements of numerical models, or other mechanisms, ongoing public outreach to engage drinking water well users may provide opportunities to receive feedback and identify creative solutions to address these challenges. Ongoing public outreach with drinking water well users is important to inventory wells in the basin, provide educational materials on well infrastructure and maintenance, involve drinking water users so they can understand groundwater planning and management efforts, and inform them how and with whom to communicate if impacts occur to their wells.

GSAs have data gaps identified in their GSPs, and as part of implementation should be working to fill those gaps and any additional gaps that may have been identified after GSP adoption. GSAs should provide information regarding those data gaps that are filled in annual reports and periodic updates of the GSPs. Such data gaps could help address or further identify potential effects on drinking water users and continual engagement with drinking water users on the changes in the GSPs is encouraged.



Relevant data, information, and resources to support GSAs in performing ongoing public outreach and filling data gaps are available in the toolkit. [Public Outreach Toolkit](#) • [Data Gaps Toolkit](#)

3. TOOLS AND RESOURCES

The toolkits on the website are organized to support the guidance presented in [Section 2](#) and aligned with the overall outline of this document. The toolkits are intended to be dynamic and will be updated as new information is available.

The toolkits contain links to reference documents, websites, data, and online tools that have been developed under various state programs. The toolkits focus on state resources, but the website also contains a link to the [Groundwater Exchange](#), which is a useful portal for accessing non-state tools and resources related to groundwater management.



[Considerations for Identifying and Addressing Drinking Water Well Impacts Toolkits](#)

4. COMPLEMENTARY PROGRAMS AND INITIATIVES

Complementary programs and initiatives exist that can be aligned to help address impacts to drinking water well users. Alignment and coordination with these initiatives can aid GSAs in the understanding and development of processes for determining if groundwater management and extraction is resulting in impacts to drinking water well users. The initiatives that might be most useful to the GSAs when developing and implementing their GSPs and associated reports and updates include the Drinking Water Principles and Strategies document, SB 552 (Drought Planning for Small

Water Suppliers and Rural Communities), local government general plans, well permitting, and other relevant programs within the basin.



Relevant information, about complementary programs and initiatives are available in the toolkit. [Complementary Programs and Initiatives Toolkit](#)

4.1 Groundwater Management Principles and Strategies

To fulfill an April 2021 Emergency Proclamation by the Governor, DWR, in coordination with the State Water Board, developed [Groundwater Management Principles and Strategies to Monitor, Analyze, and Minimize Impacts to Drinking Water Wells: A Framework for State Action to Support Drought Resilient Communities](#) (Groundwater Management Principles and Strategies). The principles and strategies document provides a shared, interagency framework that captures key actions the state will pursue to help address and minimize impacts to drinking water well users. Strategy 6.2 of the Groundwater Management Principles and Strategies, identifies that the state will, “develop guidance for local agencies to collaborate on mitigation strategies and actions to offset impacts of groundwater pumping and management on drinking water well users in partnership with local agencies and NGOs [Non-Governmental Organizations]”. Additional strategies outlined in the Groundwater Management Principles and Strategies document are featured as items in the online toolkit associated with this guidance document. The status of other principles and strategies can be found at the program website <https://water.ca.gov/Programs/Groundwater-Management/Drinking-Water-Well>.

4.2 Senate Bill 552: Drought Planning for Small Water Providers and Rural Communities

In response to drought conditions, the State Legislature passed SB 552 in September 2021, also known as [Drought Planning for Small Water Suppliers and Rural Communities](#). SB 552 requires state and local governments to share the responsibility for preparing and acting in the case of a water shortage event. Specifically, the law requires small water suppliers (15 to 3,000 connections and serving less than 3,000 acre-feet per year) to develop a water shortage contingency plan and requires counties to assemble a standing drought task force to facilitate drought planning, response and management, and to develop drought resilience plans to prepare for water shortage for state small water systems (serving 5 to 14 connections), domestic wells, and other privately supplied homes within the county’s jurisdiction. The requirements of SB 552 were also identified in the Groundwater Management Principles and Strategies document described above, as part of the state’s actions that will help address drinking water needs. The nexus of the two programs (SGMA and SB 552) and their differences, including that SGMA applies only to groundwater basins and SB 552 is statewide, is documented and illustrated in a [fact sheet on alignment and coordination](#) between the two programs.

Prior to planning or implementing activities to address drinking water impacts, GSAs are encouraged to begin coordination with other local entities such as local water systems and counties. Small water suppliers will have water shortage contingency plans for compliance with SB 552⁵⁸ as a stand-alone plan and larger suppliers will have a drought contingency plan as part of their urban water management plans. Under SB 552, counties will have a drought resilience plan that addresses domestic wells either as a stand-alone or as part of an existing county plan such as a local hazard mitigation plan, emergency operations plan, climate action plan, or general plan. The drought

⁵⁸ DWR’s SB 552 website: <https://water.ca.gov/Programs/Water-Use-And-Efficiency/SB-552>

resilience plan has elements that focus on short-term response as well as long-term strategies, so coordination between GSAs and counties is important.

At a minimum, GSAs should identify who is the county contact for emergency response and/or responsible for drought resilience plans, invite them to be part of the GSP implementation process, and inform them of GSP implementation activities related to drinking water users, and identify opportunities for collaboration on projects and management actions.

4.3 General Plans

Coordination with cities and counties (planning agencies) and their associated general or land use plans can be leveraged to aid GSAs in understanding and avoiding future land use changes that could increase groundwater demand and could result in impacts from groundwater management and extraction practices on drinking water well users. As per California Government Code, "it is vital that there be close coordination and consultation between California's water supply or management agencies and California's land use approval agencies to ensure that proper water supply and management planning occurs to accommodate projects that will result in increased demands on water supplies or impact water resources management."⁵⁹

When a city or county proposes to adopt or substantially amend a general plan, the GSA should receive notification and subsequently provide the planning agency their GSP as well as a report on the anticipated effects of the general plan adoption or amendment on the implementation of the GSP.^{60,61} Similarly, a GSP shall "take into account the most recent planning assumptions stated in local general plans of jurisdictions overlying the basin"⁶² and "include a description of the consideration given to the applicable county and city general plans and...an assessment of how the groundwater sustainability plan may affect those plans."⁶³

Specifically, GSPs shall include description of how the land use elements of general plans, or land use plans, "may change water demands within the basin or affect the ability of the [GSA] to achieve sustainable groundwater management over the planning and implementation horizon, and how the [GSP] addresses those potential effects."⁶⁴ . This codified coordination between planning agencies and groundwater management agencies helps to ensure bilateral decision-making regarding existing and future water supplies, demands, and their associated potential impacts on drinking water uses and users.

4.4 Well Permitting

Regulatory authority over well construction, alteration, and destruction typically rests with local jurisdictions, such as the county department of environmental health. However, some cities or water agencies may have gained the well permitting authority for their jurisdictions. GSAs should coordinate closely with these well permitting agencies to ensure that local well ordinances and well permitting processes are consistent with implementation of the GSP and will support sustainability. GSAs should identify the contacts at the well permitting agencies in their basin, invite them to be part of the GSP implementation and modification process, and inform them of GSP implementation activities.

A previous statewide drought emergency executive order required well permitting agencies to obtain written verification from GSAs that a proposed new well or well modification would not "...

⁵⁹ Government Code § 65352.5(a).

⁶⁰ Select additional information may be required as per Government Code § 65352.5(d)(2).

⁶¹ Government Code § 65352.5(d)(1) and 65352.5(d)(3).

⁶² Water Code § 10726.9.

⁶³ Water Code § 10727.2(g).

⁶⁴ 23 CCR § 354.8(f)(3).

interfere with the production and functioning of existing nearby wells...”, "...cause subsidence...”, or "...be inconsistent with any sustainable groundwater management program”.⁶⁵ As discussed in [Section 2.6](#) above, this type of coordination is intended to help ensure that during drought periods: new wells won't affect nearby drinking water wells, exacerbating drought impacts and potentially leaving them without an adequate drinking water supply. Permitting agencies, drillers, and owners of new wells in high and medium priority groundwater basins should know the depth of the groundwater level minimum threshold at the well site and should construct the well deeper than the minimum threshold, as identified in the GSP.

4.5 Other Relevant Programs

Listed below are a set of other programs that GSAs may want to coordinate with on issues related to impacts to drinking water well users.

- **RWQCBs** - There are nine Regional Water Quality Control Boards throughout the state with each board making decisions for water quality in their region, including setting standards, issuing waste discharge requirements, determining compliance with those requirements, and taking appropriate enforcement actions.
- **GAMA** - The Groundwater Ambient Monitoring and Assessment Program under the State Water Board SWRCB is a comprehensive groundwater quality monitoring program and collaborates with the RWQCBs, DWR, the Department of Pesticide Regulations, U.S. Geological Survey, Lawrence Livermore National Laboratory, and cooperates with local water agencies and well owners to collect water quality information and make the data available to the public.
- **DDW** - The Division of Drinking Water is a program of the State Water Board that regulates public drinking water systems.
- **SAFER** - The Safe and Affordable Funding for Equity and Resilience is a State Water Board program under DDW which focuses on short- and long-term drinking water solutions through the identification of "at risk" systems and wells, providing grants and loans, encouraging community engagement, and, when necessary, regulation and enforcement.
- **ILRP** - The Irrigated Lands Regulatory Program is a State Water Board program designed to prevent agricultural runoff from impairing surface waters, and later included the addition of groundwater regulations.
- **CV-SALTS** - The Central Valley Salinity Alternatives for Long-Term Sustainability is a cooperative effort among regulators, permittees, environmental interests, and other parties to create a comprehensive Central Valley Salinity Management Plan.

⁶⁵ Executive Order N-7-22 Action 9.